

CLAIMS:

1. Telecommunications apparatus between a voice frame network gatekeeper and an intelligent peripheral, the apparatus comprising:

a voice frame network connection for coupling a gatekeeper to an intelligent peripheral, and

a protocol over said connection that provides supplemental services messaging between the gatekeeper and the intelligent peripheral, said protocol enabling the gatekeeper to selectively insert one or more messages to the intelligent peripheral and to selectively intercept one or more messages from the intelligent peripheral.

2. The apparatus of claim 1, wherein said protocol further enables the selective insertion of one or more messages to the gatekeeper.

3. The apparatus of claim 2, wherein such selective insertion of one or more messages to the gatekeeper includes selective insertion of one or more release complete (RELCOM) messages in accordance with the International ITU-T H.323 standard.

4. The apparatus of claim 1, wherein such selective insertion of one or more messages to the gatekeeper includes selective insertion of one or more send-to-resource (STR) messages in accordance with the GR-1129-CORE standard.

5. The apparatus of claim 1, wherein such selective interception includes selective interception of one or more facility (FACILITY) messages in accordance with the International ITU-T H.323 standard.

6. The apparatus of claim 5, wherein at least one of the one or more FACILITY messages includes a return results (RETURN RESULTS) component.

7. The apparatus of claim 1 which further comprises:
a service control point operatively connected to the gatekeeper and to a database, said service control point providing information contained in said database to the gatekeeper in response to a query therefrom.

8. Telecommunications apparatus for coordinating a voice frame network gatekeeper and an interactive voice response unit including a performance mechanism for performing a defined task responsive to the gatekeeper, the apparatus comprising:

a voice frame network connection for coupling a gatekeeper to an interactive voice response unit;

an invocation mechanism within the gatekeeper for setting a defined task to the interactive voice response unit via in-band signaling; and

a protocol enforcing processor that provides supplemental services messaging between the gatekeeper and the intelligent peripheral over said interface processor, said enabling the gatekeeper to selectively insert one or more messages to the interactive voice response unit and to selectively intercept one or more messages from the interactive voice response unit.

9. The apparatus of claim 8, wherein said invocation mechanism and said performance mechanism comply with International ITU-T H.323 and H.450 standards.

10. The apparatus of claim 9, wherein said processor further enables selective insertion of one or more messages to the gatekeeper.

11. The apparatus of claim 10, wherein such selective insertion of one or more messages to the gatekeeper includes selective insertion of one or more release complete (RELCOM) messages in accordance with the International ITU-T H.323 standard.

12. The apparatus of claim 11, wherein such selective insertion of one or more messages to the interactive voice response unit includes selective insertion of one or more send-to-resource (STR) messages in accordance with the GR-1129-CORE standard.

13. The apparatus of claim 12, wherein such selective insertion of one or more messages to the gatekeeper includes selective insertion of one or more facility (FACILITY) messages in accordance with the International ITU-T H.323 standard.

5 14. A method of interfacing a voice frame network gatekeeper and an interactive voice response unit (IVR) configured as an intelligent peripheral under International H.450 standard with a service control point (SCP), the method comprising:
configuring the gatekeeper as a supplemental services provider (SSP) under International H.450 standard;

10 first conveying requests from the gatekeeper to the IVR over the voice frame network in accordance with a defined protocol; and
receiving responses to the requests from the IVR at the gatekeeper over the voice frame network in accordance with a defined protocol,
wherein the gatekeeper selectively intercepts one or more messages from the
15 IVR.

15 15. A method of claim 14, which further comprises:
configuring the IVR as an intelligent peripheral under International H.450 standard; and

20 second conveying responses to the requests from the IVR to the gatekeeper over the voice frame network in accordance with a defined protocol.

25 16. The method of claim 14, wherein the gatekeeper selectively inserts one or more messages to the IVR.

30 17. The method of claim 16, wherein such selective interception includes selective interception of one or more facility (FACILITY) messages in accordance with the International ITU-T H.323 standard, and wherein such selective insertion includes selective insertion of one or more send-to-resource (STR) messages in accordance with the GR-1129-CORE standard.

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18. A computer-readable medium containing a program for interfacing a voice frame network gatekeeper and an interactive voice response unit (IVR) configured as an intelligent peripheral under International H.450 standard with a service control point (SCP), the program comprising:

5 instructions for configuring the gatekeeper as a supplemental services provider (SSP) under International H.450 standard;

instructions for first conveying requests from the gatekeeper to the IVR over the voice frame network in accordance with a defined protocol;

10 instructions for receiving responses to requests from the IVR at the gatekeeper over the voice frame network in accordance with a defined protocol; and

instructions for selectively intercepting one or more messages from the IVR and for selectively inserting one or more messages to the IVR.

15 19. A computer-readable medium of claim 18, wherein the program further comprises:

instructions for configuring the IVR as an intelligent peripheral under International H.450 standard; and

20 instructions for second conveying responses to requests from the IVR to the gatekeeper over the voice frame network in accordance with a defined protocol.

20. The computer-readable medium in accordance with claim 18, wherein said instructions for selectively intercepting includes instructions for selectively intercepting one or more facility (FACILITY) messages in accordance with the International ITU-T H.323 standard, and wherein said instructions for selectively
25 inserting includes instructions for selectively inserting one or more send-to-resource (STR) messages in accordance with the GR-1129-CORE standard.

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21. Apparatus for interfacing a voice frame network gatekeeper and an interactive voice response unit (IVR) configured as an intelligent peripheral under the International H.450 standard with a service control point (SCP), the apparatus comprising:

5 means for configuring the gatekeeper as a supplemental services provider (SSP) under the International H.450 standard;

means for first conveying requests from the gatekeeper to the IVR over the voice frame network in accordance with a defined protocol, said first conveying means including software instructions resident on a computer-readable medium and executable
10 by a processor within the gatekeeper;

means for receiving responses to requests from the IVR at the gatekeeper over the voice frame network in accordance with a defined protocol, said receiving means including software instructions resident on a computer-readable medium and executable
by a processor within the gatekeeper; and

15 means for selectively intercepting one or more messages from the IVR and for selectively inserting one or more messages to the IVR, said selective-intercepting-and-inserting means including software instructions resident on a computer-readable medium and executable by a processor within the gatekeeper.

20 22. The apparatus of claim 21 which further comprises:

means for configuring the IVR as an intelligent peripheral under the International H.450 standard; and

means for second conveying responses to requests from the IVR to the gatekeeper over the voice frame network in accordance with a defined protocol, said
25 second conveying means including software instructions resident on a computer-readable medium and executable by a processor within the IVR.

23. The apparatus of claim 21, wherein said means for selectively intercepting includes means for selectively intercepting one or more facility
30 (FACILITY) messages in accordance with the International ITU-T H.323 standard, and wherein said means for selectively inserting includes means for selectively inserting one or more send-to-resource (STR) messages in accordance with the GR-1129-CORE standard.

**INTERCEPTION CALL SIGNALING METHOD AND APPARATUS
BETWEEN A GATEKEEPER AND AN INTELLIGENT PERIPHERAL IN A
VOICE FRAME NETWORK**

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ABSTRACT OF THE DISCLOSURE

Telecommunications apparatus between a voice frame network gatekeeper and an intelligent peripheral, e.g. an interactive voice response unit (IVR), includes a voice frame network connection for coupling the same. The apparatus further includes a protocol over the connection that provides supplemental service messaging
10 therebetween, the protocol enabling the gatekeeper to selectively insert one or more messages to the intelligent peripheral and to selectively intercept one or more messages therefrom. Preferably such insertion is of one or more GR-1129-CORE send-to-resource (STR) messages and such interception is of one or more ITU-T H.323 FACILITY messages including a RETURN RESULTS component. An invocation
15 mechanism within the gatekeeper and a performance mechanism within the IVR permits the gatekeeper to set a defined task to the IVR, also preferably in accordance with the ITU-T H.323 and H.450 standards. The method involves configuring the gatekeeper as a supplemental services provider (SSP) and configuring the IVR as an intelligent peripheral, under ITU-T H.450. The method further involves conveying requests from
20 the gatekeeper to the IVR and conveying responses thereto from the IVR to the gatekeeper, wherein the gatekeeper selectively intercepts one or more messages from the IVR and, optionally, also selectively inserts one more messages to the IVR.